

## REMARKS/ARGUMENTS

Claims 63, 66-67, and 72 are under examination with the entry of this Amendment. Claims 39-62 and 68-71, and 73-84 have been withdrawn as non-elected claims. Claims 1-38 have previously been canceled without prejudice. Claims 64-65 have been canceled without prejudice. Claims 63, 67, and 72 have been amended to better claim the subject matter which Applicants regard as the invention. Support is found in the Specification at page 4, lines 4-9 and page 10, lines 7-8. The Specification has been amended to insert the abstract from PCT/AU00/01048. The Claim section now begins with "We claim:". No new matter has been added with this Amendment.

### Restriction Requirement:

Applicants respectfully request rejoining of claim 67 with claims 63, 66, and 72 for examination in view of the amendments made in the present Amendment. It is submitted that claims 63, 66, 67, and 72 as amended share special technical features that define a contribution which each of the claimed inventions, considered as a whole, makes over the prior art, as defined by PCT Rule 13.2. Specifically, the subject matter defined in the amended claims is distinct over that disclosed in U.S. Patent No. 6,096,320. Accordingly, claim 67 should be examined together with claims 63, 66, and 72 in accordance with PCT practice as provided in the administrative instructions under the PCT, Part 2, "Examples concerning unity of invention", in particular, Example 17.

### Claim Rejections under 35 U.S.C. 101:

Claims 63-66 are rejected under 35 U.S.C. 101 on the ground that the claimed invention is allegedly directed to non-statutory subject matter.

Without acquiescing to this rejection, claims 63 and 67 have been amended to recite the term, "isolated". Accordingly, this rejection is no longer applicable.

Claim Rejection under 35 U.S.C. 112:

Claims 63-66 and 72 are rejected under 35 U.S.C. 112, first paragraph, as allegedly containing subject matter which was not described in the Specification in such a way as to reasonably convey to one skilled in the art that the inventors, at the time the application was filed, had possession of the claimed invention. Applicants respectfully traverse this rejection.

This rejection was based on the recitation of the degree of homology in the claims. Without acquiescing to this rejection and in the interest of advancing prosecution of this application, claims 63 and 72 have been amended to specify an isolated polypeptide having the amino acid sequence as set out in SEQ ID NO: 5 and a fragment thereof of at least 20 amino acids long which shows immunological cross-reactivity with the peptide, and an immunogenic composition containing such polypeptide and fragments. Amended claim 67 defines nucleic acid molecules encoding the polypeptide and the fragments recited in claim 63. The amendments made herein are supported by the as-filed Specification at page 4, lines 4-9 and page 10, lines 7-8. It is stated in the Specification at page 4, lines 4-9 that "[T]he term, "functional fragment" as used herein is intended to cover fragments of the polypeptide which retain at least 10% of the biological activity of the complete polypeptide. In particular this term is used to encompass fragments which show immunological cross-reactivity with the entire polypeptide, eg ligands which react with the fragment also react with the complete polypeptide". The recitation of the functional fragment in the claims is consistent with this definition.

Applicants submit that the specification provides sufficient written description for the subject matter defined in the amended claims. The claimed invention is based on the inventors' discovery of the *Moraxella bovis* haemolysin gene. The amino acid sequence and the nucleic acid encoding the *M. bovis* haemolysin gene are disclosed in the Specification. As pointed out by the Examiner, the haemolysin polypeptide and

fragments claimed are useful as an immunogen to raise an immune response against *Moraxella*. A person of ordinary skill in the art can make the peptide and the fragments claimed and use them as an immunogen based on the description provided in the Specification and on protocols readily available in the art.

Claims 63-66 and 72 are further rejected under 35 U.S.C. 112, first paragraph, as allegedly non-enabling. This rejection is based on the recitation of the degree of homology. Without acquiescing to this rejection, claims 63, 67, and 72 have been amended and no longer recite the percent homology. With the entry of this Amendment, this rejection is no longer applicable.

In summary, claims 63, 66, 67, and 72 as amended are directed to the subject matter sufficiently described in the Specification to enable a skilled artisan to make and/or use the invention. The amino acid sequence and the nucleotides encoding the polypeptide and the fragments are provided. The skill in the relevant art (i.e., molecular biology) is high and standard protocols necessary to make the invention are readily available. Thus, a skilled artisan can use the sequence information provided in the Specification to make the polypeptide and the fragments, and use them as immunogens to raise an immune response against *Moraxella* in an animal according to the standard protocols known in the art.

Claim Rejections under 35 U.S.C. 102:

Claims 63-66 and 72 are rejected under 35 U.S.C. 102(e) as allegedly anticipated by Campos et al. (U.S. Patent 6, 096,320) and are further rejected under 35 U.S.C. 102(b) as allegedly anticipated by Billson et al. Applicants respectfully traverse these rejections.

Without acquiescing to these rejections and in the interest of advancing prosecution of this case, claims 63, 67, and 72 have been amended and thus these rejections are no longer applicable.

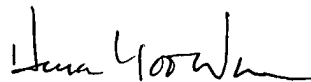
Conclusion:

Based on the foregoing amendments and arguments, this case is considered to be in condition for allowance and passage to issuance is respectfully requested.

If there are further issues related to patentability, the courtesy of a telephone interview is requested, and the Examiner is invited to call to arrange a mutually convenient time.

This amendment is accompanied by a Petition for Extension of Time (2 months) and a check in the amount of \$420.00 as required under 37 C.F.R. 1.17. It is believed that this amendment does not necessitate the payment of any additional fees under 37 C.F.R. 1.16-1.17. If the amount submitted is incorrect, however, please deduct from Deposit Account No. 07-1969 the appropriate fee for this submission and any extension of time required.

Respectfully submitted,



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